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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/863,928	05/23/2001	Lin Wang	211534	1613

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EXAMINER

HUSON, MONICA ANNE

ART UNIT	PAPER NUMBER
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1732

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

C1

**Office Action Summary**

Application No.

09/863,928

Applicant(s)

WANG ET AL.

Examiner

Monica A. Huson

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 8-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 33-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This office action is in response to the Amendment filed 20 January 2006.

Due to applicant's amendment, the previous rejections have been withdrawn.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 33-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakatsuka et al. (U.S. Patent 4,076,846), in view of Redding, Jr. (U.S. Patent 5,455,342), further in view of Altieri (U.S. Patent 5,849,233). Regarding Claim 1, Nakatsuka et al., hereafter "Nakatsuka," show that it is known to carry out a method for preparing a cold water soluble extruded starch product that has a solubility of greater than 90% in water at 25C that is film forming in aqueous solution and that is gelatinized to a gelatinization level, said gelatinization level being at least 95% (Column 5, lines 33-52; Column 6, lines 21-24; Column 8, lines 31-33; Column 9, lines 4-5), the process comprising providing a hydroxyalkyl starch, said starch being derivatized with a hydroxyalkyl substituent having from 2 to 6 carbon atoms (Column 6, lines 60-62), said starch being a granular starch (Column 5, lines 33-51; Column 8, line 41); and extruding said starch in an extruder, said extruder having a barrel, a die, and at least one rotating shaft, said barrel having at least first and second zones, said first zone being upstream from said

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second zone, the conditions in the first zone being insufficient to gelatinize said starch to said gelatinization level and the conditions in said second zone being sufficient to gelatinize said starch to said gelatinization level, said starch being extruded in the presence of controlled moisture, said process including the step of controlling the rotational speed of said shaft to impart specific mechanical energy to said starch sufficient to result in a soluble extruded starch product that is capable of extrusion through said die at said rotational speed (Column 8, lines 9-17, 31-33, 49-53; Column 13, lines 31-40; Column 14, lines 5-12, 25-28; It is noted that gelatinization occurs about 150C-175C.). Nakatsuka does not specifically disclose the particle size of his common starch. Redding, Jr. shows that it is known to carry out a method of molding starches wherein the starches have a particle size distribution such that at least 90% by weight of the starch particles pass through an 80 mesh (180 micron) screen (Column 1, lines 19-23; It is being interpreted that since starch is "commonly found" at sizes from 5-25 microns, at least 90% by weight of starch would fall into the disclosed size of 5-25 microns.). Redding, Jr. and Nakatsuka are combinable because they are concerned with a similar technical field, namely, methods of molding starches. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to identify the size disclosed in Redding, Jr. as that of Nakatsuka's "common" starches in order to design molding processes that would accommodate specifically-sized granules. Nakatsuka does not specifically show barrel moisture levels. Altieri shows that it is known to carry out a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). Altieri and Nakatsuka are combinable because they are concerned with a similar technical field, namely, methods of molding starches. It would have been prima facie obvious to one of ordinary skill in the art at the time the

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invention was made to use Altieri's specific barrel moisture teachings during Nakatsuka's molding process in order to most accurately form a product that accommodates exclusive end-use specifications.

Regarding Claim 2, Nakatsuka shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not give barrel moisture levels. Altieri shows that it is known to carry out a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). It is noted that a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness (MPEP 2144.05; *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir.2003)). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to operate Nakatsuka's molding method under a somewhat narrower moisture range of less than 22.5% by weight of the starch, suggested by Altieri, in order to most accurately form a product that accommodates exclusive end-use specifications.

Regarding Claim 3, Nakatsuka shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not give barrel moisture levels. Altieri shows that it is known to carry out a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). It is noted that a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness (MPEP 2144.05; *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir.2003)). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to operate Nakatsuka's molding method under a somewhat

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narrower moisture range of less than 20% by weight of the starch, suggested by Altieri, in order to most accurately form a product that accommodates exclusive end-use specifications.

Regarding Claim 4, Nakatsuka shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not give barrel moisture levels. Altieri shows that it is known to carry out a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). It is noted that a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness (MPEP 2144.05; *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir.2003)). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to operate Nakatsuka's molding method under a somewhat narrower moisture range of less than 17.5% by weight of the starch, suggested by Altieri, in order to most accurately form a product that accommodates exclusive end-use specifications.

Regarding Claim 5, Nakatsuka shows the process as claimed as discussed in the rejection of Claim 1 above, including a method comprising the step of drying said extruded starch product to a moisture content below about 15% to form a dried product (Column 14, lines 51-52), meeting applicant's claim.

Regarding Claim 6, Nakatsuka shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein said starch product is dried to a moisture content between about 9% and about 12% (Column 13, line 9), meeting applicant's claim.

Regarding Claim 33, Nakatsuka shows that it is known to carry out a method for preparing a coated food product (Column 11, lines 1-61), comprising providing a food substrate

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(Column 11, lines 31-61); providing a seasoning adherence solution (Column 11, lines 1-61); and applying said seasoning adherence solution to said food product in a manner effective to cause seasoning in said solution to adhere to said food substrate (Column 11, lines 1-61); said seasoning adherence solution having been prepared by mixing water, an extruded starch product, and a seasoning to form said solution (Column 11, lines 1-61), said product having been formed by the process comprising providing a hydroxyalkyl starch, said starch being derivatized with a hydroxyalkyl substituent having from 2 to 6 carbon atoms (Column 6, lines 60-62), said starch being a granular starch (Column 5, lines 33-51; Column 8, line 41); and extruding said starch in an extruder, said extruder having a barrel, a die, and at least one rotating shaft, said barrel having at least first and second zones, said first zone being upstream from said second zone, the conditions in the first zone being insufficient to gelatinize said starch to a gelatinization level of 95% and the conditions in said second zone being sufficient to gelatinize said starch to a gelatinization level of 95%, said starch being extruded in the presence of controlled moisture, said process including the step of controlling the rotational speed of said shaft to impart specific mechanical energy to said starch sufficient to result in a soluble extruded starch product that is capable of extrusion through said die at said rotational speed (Column 5, lines 33-52; Column 6, lines 21-24; Column 8, lines 9-17, 31-33, 49-53; Column 9, lines 4-5; Column 13, lines 31-40; Column 14, lines 5-12, 25-28; It is noted that gelatinization occurs about 150C-175C.).

Nakatsuka does not specifically disclose the particle size of his common starch. Redding, Jr. shows that it is known to carry out a method of molding starches wherein the starches have a particle size distribution such that at least 90% by weight of the starch particles pass through an 80 mesh (180 micron) screen (Column 1, lines 19-23; It is being interpreted that since starch is

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“commonly found” at sizes from 5-25 microns, at least 90% by weight of starch would fall into the disclosed size of 5-25 microns.). Redding, Jr. and Nakatsuka are combinable because they are concerned with a similar technical field, namely, methods of molding starches. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to identify the size disclosed in Redding, Jr. as that of Nakatsuka’s “common” starches in order to design molding processes that would accommodate specifically-sized granules. Nakatsuka does not specifically show barrel moisture levels. Altieri shows that it is known to carry out a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). Altieri and Nakatsuka are combinable because they are concerned with a similar technical field, namely, methods of molding starches. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Altieri’s specific barrel moisture teachings during Nakatsuka’s molding process in order to most accurately form a product that accommodates exclusive end-use specifications.

Regarding Claim 34, Nakatsuka shows the process as claimed as discussed in the rejection of Claim 33 above, but he does not give barrel moisture levels. Altieri shows that it is known to carry out a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). It is noted that a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness (MPEP 2144.05; *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir.2003)). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to operate Nakatsuka’s molding method under a somewhat



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narrower moisture range of less than 22.5% by weight of the starch, suggested by Altieri, in order to most accurately form a product that accommodates exclusive end-use specifications.

Regarding Claim 35, Nakatsuka shows the process as claimed as discussed in the rejection of Claim 33 above, but he does not give barrel moisture levels. Altieri shows that it is known to carry out a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). It is noted that a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness (MPEP 2144.05; *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir.2003)). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to operate Nakatsuka's molding method under a somewhat narrower moisture range of less than 20% by weight of the starch, suggested by Altieri, in order to most accurately form a product that accommodates exclusive end-use specifications.

Regarding Claim 36, Nakatsuka shows the process as claimed as discussed in the rejection of Claim 33 above, but he does not give barrel moisture levels. Altieri shows that it is known to carry out a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). It is noted that a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness (MPEP 2144.05; *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir.2003)). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to operate Nakatsuka's molding method under a somewhat narrower moisture range of less than 17.5% by weight of the starch, suggested by Altieri, in order to most accurately form a product that accommodates exclusive end-use specifications.

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Regarding Claim 37, Nakatsuka shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein said starch has a solubility of at least 99% in water at 25C (Column 13, lines 19-21), meeting applicant's claim.

Regarding Claim 38, Nakatsuka shows the process as claimed as discussed in the rejection of Claim 33 above, including a method wherein said starch has a solubility of at least 99% in water at 25C (Column 13, lines 19-21), meeting applicant's claim.

Regarding Claim 39, Nakatsuka shows that it is known to carry out a method for preparing a cold water soluble extruded starch product that has a solubility of greater than 90% in water at 25C that is film forming in aqueous solution and that is gelatinized to a gelatinization level, said gelatinization level being at least 95% (Column 5, lines 33-52; Column 6, lines 21-24; Column 8, lines 31-33; Column 9, lines 4-5), the process comprising providing a hydroxyalkyl starch, said starch being derivatized with a hydroxyalkyl substituent having from 2 to 6 carbon atoms (Column 6, lines 60-62), said starch being a granular starch (Column 5, lines 33-51; Column 8, line 41); and extruding said starch in an extruder, said extruder having a barrel, a die, and at least one rotating shaft, said starch being extruded in the presence of controlled moisture, said process including the step of controlling the rotational speed of said shaft to impart specific mechanical energy to said starch sufficient to result in a soluble extruded starch product that is capable of extrusion through said die at said rotational speed (Column 8, lines 9-17, 31-33, 49-53; Column 13, lines 31-40; Column 14, lines 5-12, 25-28). Nakatsuka does not specifically disclose the particle size of his common starch. Redding, Jr. shows that it is known to carry out a method of molding starches wherein the starches have a particle size distribution such that at least 90% by weight of the starch particles pass through an 80 mesh (180 micron) screen

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(Column 1, lines 19-23; It is being interpreted that since starch is "commonly found" at sizes from 5-25 microns, at least 90% by weight of starch would fall into the disclosed size of 5-25 microns.). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to identify the size disclosed in Redding, Jr. as that of Nakatsuka's "common" starches in order to design molding processes that would accommodate specifically-sized granules.

Regarding Claim 40, Nakatsuka shows the process as claimed as discussed in the rejection of Claim 39 above, including a method wherein said barrel has at least first and second zones, said first zone being upstream from said second zone, the conditions in the first zone being insufficient to gelatinize said starch to said gelatinization level and the conditions in said second zone being sufficient to gelatinize said starch to said gelatinization level (Column 8, lines 9-17, 31-33, 49-53; Column 13, lines 31-40; Column 14, lines 5-12, 25-28; It is noted that gelatinization occurs about 150C-175C.), meeting applicant's claim.

Regarding Claims 41-43, Nakatsuka shows the process as claimed as discussed in the rejection of Claims 1, 3, and 39, respectively, including a method wherein said hydroxyalkyl starch comprises a hydroxypropyl starch (Column 6, lines 60-62), meeting applicant's claim.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakatsuka, Redding, Jr., and Altieri, further in view of Protzman et al. (U.S. Patent 3,137,592). Nakatsuka shows the process as claimed as discussed in the rejection of Claim 6 above, but he does not show grinding. Protzman shows that it is known to carry out a method further comprising the step of grinding said dried product (Column 12, lines 68-70). It would have been prima facie

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obvious to one of ordinary skill in the art at the time the invention was made to include Protzman's grinding step in Nakatsuka's general molding process in order to prepare the molded product for subsequent uses which require ground items.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

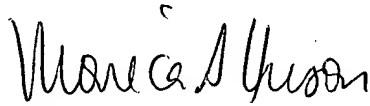
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A. Huson whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Colaianni can be reached on 571-272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Monica A Huson  
April 3, 2006



**MICHAEL P. COLAIANNI**  
**SUPERVISORY PATENT EXAMINER**